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EXAMINER

BAKER, MAURIE GARCIA

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1639

DATE MAILED: 07/09/2003

27

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
08/847,967

Applicant(s)

Goldwasser et al

Examiner

Maurie G. Baker

Art Unit

1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 12, 2003
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8, 10, 11, 15-24, 26, 30-35, 42, 43, 45-49, 51-56, 58-60, 64-72 and 74-99 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8, 10, 11, 15-24, 26, 30-35, 42, 43, 45-49, 51-56, 58-60, 64-72 and 74-99 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

DETAILED ACTION

Please note: The number of Art Unit 1627 has been changed to 1639. Please direct all correspondence for this case to **Art Unit 1639**.

1. The Responses filed 11/12/02, 1/15/03 and 2/12/03 (Papers No. 32, 33 and 34 respectively) are acknowledged. Claim 92 was amended and claims 96-99 were added. Therefore, claims 8, 10, 11, 15-24, 26, 30-35, 42, 43, 45-49, 51-56, 58-60, 64-72 and 74-99 are pending.
2. The two declarations filed 2/12/03 are also acknowledged. These are discussed in paragraphs 6-8 below.
3. Claims 58, 59 and 79 were previously withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to non-elected species. However, as the claims on which these claims depend are deemed to be free of the prior art, the claims are now included in the examination.
4. Therefore, claims 8, 10, 11, 15-24, 26, 30-35, 42, 43, 45-49, 51-56, 58-60, 64-72 and 74-99 are examined on the merits in this action.

Status of Rejections

5. The rejection under 35 USC 103 is withdrawn in view of applicant's arguments and the two declarations filed 2/12/03 (discussed below). The rejection under 35 USC

112 (new matter) and the double patenting rejections are maintained. Applicant's arguments are addressed following each rejection. Note that some of the previous rejections have been reworded for clarity. New rejections are also set forth. Since these new rejections and changes were not necessitated by any amendment, this case remains in non-final status.

Response to Arguments

6. Applicant's arguments filed 11/12/02 and 2/12/03 have been fully considered and were found persuasive when taken with the two declarations filed 2/12/03 with respect to the rejection under 35 USC 103. The examiner's rationale is set forth below.

7. Applicant argues (and is supported by the statements in the two declarations) that the references do not teach a protocol that includes "varying the composition concentration, stoichiometry or thickness of the *delivered* (e.g., first or second) *component, as compared between respective material-containing regions* (Response filed 2/12/02, page 2). Applicant makes similar arguments in the Response of 11/12/02. After careful consideration of these arguments and the statements in the two declarations, this is found to be convincing.

8. Note MPEP 716.01(c) which was considered by the examiner in making the above decision.

Although factual evidence is preferable to opinion testimony, such testimony is entitled to consideration and some weight so long as the opinion is not on the ultimate legal conclusion at issue. While an opinion as to a legal conclusion is not entitled to any weight, the underlying basis

for the opinion may be persuasive. In *re Chilowsky*, 306 F.2d 908, 134 USPQ 515 (CCPA 1962) (expert opinion that an application meets the requirements of 35 U.S.C. 112 is not entitled to any weight; however, facts supporting a basis for deciding that the specification complies with 35 U.S.C. 112 are entitled to some weight); In *re Lindell*, 385 F.2d 453, 155 USPQ 521 (CCPA 1967) (Although an affiant's or declarant's opinion on the ultimate legal issue is not evidence in the case, "some weight ought to be given to a persuasively supported statement of one skilled in the art on what was not obvious to him." 385 F.2d at 456, 155 USPQ at 524 (emphasis in original)). In assessing the probative value of an expert opinion, the examiner must consider the nature of the matter sought to be established, the strength of any opposing evidence, the interest of the expert in the outcome of the case, and the presence or absence of factual support for the expert's opinion. *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 227 USPQ 657 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986). See also In *re Oelrich*, 579 F.2d 86, 198 USPQ 210 (CCPA 1978) (factually based expert opinions on the level of ordinary skill in the art were sufficient to rebut the prima facie case of obviousness); *Ex parte Gray*, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989) (statement in publication dismissing the "preliminary identification of a human b-NGF-like molecule" in the prior art, even if considered to be an expert opinion, was inadequate to overcome the rejection based on that prior art because there was no factual evidence supporting the statement); In *re Carroll*, 601 F.2d 1184, 202 USPQ 571 (CCPA 1979) (expert opinion on what the prior art taught, supported by documentary evidence and formulated prior to the making of the claimed invention, received considerable deference).

Maintained Rejections Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

10. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b). Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 8, 10, 11, 15-24, 26, 30-35, 42, 43, 45-49, 51-56, 58-60, 64-72 and 74-99 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-67 of U.S. Patent No. 5,985,356.

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim not is patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985).

The conflicting claims are not patentably distinct from each other because the claims of the patent are drawn to a method as follows:

A method of making and screening an array of materials, said method comprising (a) delivering a first component of a first material and a first component of a second material to first and second regions on a substrate; (b) delivering a second component of said first material and a second component of said second material to said first and second regions on said substrate; (c) simultaneously reacting said delivered components to form at least two different materials; and (d) screening said materials for a useful property; wherein said materials are inorganic materials.

The claims of the instant application are directed to methods of making and methods of making/evaluating arrays of inorganic compounds (elected species) by adding a first and second component of a material to different regions of a substrate to form solid layers. The method of patented claim 1 differs from the claims herein by not reciting that solid layers are formed. However, such an embodiment is clearly within the scope of the claim and would be obvious to one of ordinary skill. See also dependent patented claims 2-4. Also note that, “[w]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA1955).

12. Claims 8, 10, 11, 15-24, 26, 30-35, 42, 43, 45-49, 51-56, 58-60, 64-72 and 74-99 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3-49 and 56-61 of U.S. Patent No. 6,004,617.

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985).

The conflicting claims are not patentably distinct from each other because the claims of the patent are drawn to a method as follows:

A method of making at least two different arrays of materials, said method comprising: (a) delivering a first component of a first material to a first region on a first single substrate and delivering said first component of said first material to a first region on a second single substrate; (b) delivering a first component of a second material to a second region on said first single substrate and delivering said first component of said second material to a second region on said second single substrate; (c) delivering a second component of said first material to said first region on said first single substrate and delivering said second component of said first material to said first region on said second single substrate; (d) delivering a second component of said second material to said second region on said first single substrate and delivering said second component of said second material to said second region on said second single substrate; and (e) reacting said components on said first single substrate under a first set of reaction conditions and said components on said second single substrate under a second set of reaction conditions to form at least two different arrays of at least two different materials.

The claims of the instant application are directed to methods of making and methods of making/evaluating arrays of inorganic compounds (elected species) by adding a first and second component of a material to different regions of a substrate to form solid layers. The method of patented claim 1 differs from the claims herein by not reciting that solid layers are formed. However, such an embodiment is clearly within the scope of the claim and would be obvious to one of ordinary skill. See also dependent patented claims 5-8. Also note that, “[w]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA1955).

It is also noted that the claims of the ‘617 patent recite making at least two arrays. As the arrays of the instant application are neither limited to being

constructed on a single monolithic support, nor are the two arrays of the '617 limited to being prepared on separate supports, this limitation does not distinguish the inventions. Moreover, preparing two or more copies of an array by method of the instant claims would read on the two arrays of the '617 patent. One of ordinary skill in the art would reasonably have been motivated to prepare more than one copy of the array in order to use them in a series of destructive tests or to sell the arrays.

Response to Arguments

13. Applicant states that they "will consider submitting a terminal disclaimer...once substantive agreement on the merits on the merits is reached" (Response filed 11/12/02, page 12). A Terminal Disclaimer has not been filed; thus, the above rejections are maintained for reasons of record.

Maintained Rejections
Claim Rejections - 35 USC § 112

14. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

15. Claim 92 remains rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the

application was filed, had possession of the claimed invention. This is a new matter rejection.

The specification as originally filed does not provide support for the invention as now claimed. Claim 92 recites a specific temperature range, i.e. “synthesis of compounds at a temperature lower than 800°C”. Applicant points to various places for support for this new claim; however, the pages cited do not *specifically* set forth the recited temperature range (i.e. lower than 800°C). Thus, there does not appear to be support for the specific limitation now claimed. In accordance with MPEP § 714.02, applicants should *specifically point out support* for any amendments made to the disclosure.

Response to Arguments

16. Applicant's arguments filed 11/12/02 have been fully considered but they are not found persuasive. The examiner's rationale is set forth below.

17. Applicant points to the instant specification page 50 (Response, page 3) in support for this limitation. The specification recites that “from 800°C to about 1000°C” is a preferred temperature range from the prior art and that the instant invention focuses on “the synthesis of compounds at lower temperatures”. The examiner does not deem this to be sufficient support for the specific limitation of “synthesis of compounds at a temperature lower than 800°C”. Note that a broad generic disclosure is **not** sufficient support for a specific entity within the class. Also note the following paragraph.

18. An objective standard for determining compliance with the written description requirement is, “does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed.” *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). Under *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991), to satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and that the invention, in that context, is whatever is now claimed. The test for sufficiency of support ... is whether the disclosure of the application relied upon “reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter.” *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985) quoting *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983)). It is completely unclear that the description as filed supports the limitation of “synthesis of compounds at a temperature lower than 800°C” for the reasons set forth above. Thus, the rejection of claim 92 is maintained.

New Objections and Rejections

Priority

19. The priority claim is unclear. The listing in the instant specification does not indicate: (1) the specific relationship (i.e., continuation, divisional, or continuation-in-part) between the nonprovisional applications, as required by 37 CFR 1.7 (a)(2)(i); and/or (2) each nonprovisional application which is directly claiming priority to a provisional

application. Correction is required. Also, an update of the status of the priority documents is also required.

Claim Rejections - 35 USC § 112

20. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

21. Claims 74, 77, 79, 80 and 96-99 are rejected under ~~are rejected under~~ 35 U.S.C. 112, first paragraph, because the specification, while being enabling for making and screening arrays of inorganic materials via the claimed methods, does not reasonably provide enablement for making and screening arrays of "non-biological polymeric materials" via the claimed methods. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

infB
5/1/03

It is clear from applicant's specification how one might practice this invention for making and screening arrays of inorganic materials; however, there is insufficient guidance as to how to make and screen arrays of "non-biological polymeric materials" via the claimed methods. There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue". These factors include, but are not limited to:

- (1) the breadth of the claims;
- (2) the nature of the invention;
- (3) the state of the prior art;
- (4) the level of one of ordinary skill;
- (5) the level of predictability in the art;
- (6) the amount of direction provided by the inventor;
- (7) the existence of working examples; and
- (8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure.

See *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

The breadth of the claims and the nature of the invention: The instant invention is drawn to various methods of making and screening arrays of materials where the materials comprise solid layers. This recitation represents broad scope and could read on a wide variety of structures. However, it is not at all clear how an array of “non-biological polymeric materials” could be made in such a format. The state of the prior art and the level of predictability in the art: While making of solid layers of inorganic materials (e.g. in the formation of a lattice or superlattice) was known in the art at the time of filing, such procedures were not sufficiently routine or predictable to permit one of skill in the art to devise strategies for making and screening arrays of “non-biological polymeric materials” via the claimed methods. The level of one of ordinary skill: The level of skill would be high, most likely at the Ph.D. level. However, such persons of ordinary skill in this art, *given its unpredictability*, would have to engage in undue (non-routine) experimentation to carry out the invention as claimed. The amount of direction provided by the inventor and the existence of working examples: The specification does not give enough guidance as to how one might make and screen arrays of “non-biological polymeric materials” via the claimed methods

(i.e. using solid layers). In fact, the instant specification does not provide any examples of making arrays of such “non-biological polymeric materials” utilizing solid layers of components. Applicant’s claimed scope represents only an invitation to experiment regarding possible methodology for making and screening arrays of “non-biological polymeric materials” via the claimed methods. The quantity of experimentation needed to make or use the invention based on the content of the disclosure: The instant specification does not provide to one skilled in the art a reasonable amount of guidance with respect to the direction in which the experimentation should proceed in making and using the full scope of the claimed methods. Note that there must be sufficient disclosure, either through illustrative examples or terminology, to teach those of ordinary skill how to make and use the invention as broadly as it is claimed. *In re Vaeck*, 947 F.2d 488, 496 & n.23, 20 USPQ2d 1438, 1445 & n.23 (Fed. Cir. 1991). Therefore, it is deemed that further research of an unpredictable nature would be necessary to make or use the invention as claimed. Thus, due to the inadequacies of the instant disclosure, one of ordinary skill would not have a reasonable expectation of success and the practice of the full scope of the invention would require undue experimentation.

Claim Rejections - 35 USC § 112

22. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

23. Claim 72 and all claims dependent thereon are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim lacks clear antecedent basis for the recitation of "the at least ten different materials" in the screening step. The examiner believes that this should read -- the at least one hundred different materials --.

Status of Claims/Conclusion

24. No claims are allowed.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maurie Garcia Baker, Ph.D. whose telephone number is (703) 308-0065. The examiner is on an increased flextime schedule but can normally be reached on Monday-Thursday and alternate Fridays from 9:30 to 7:00.

26. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang, can be reached at (703) 306-3217. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Maurie Garcia Baker, Ph.D.
May 2, 2003


MAURIE GARCIA BAKER PH.D.
PRIMARY EXAMINER